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Instructor and course attitude scale and its use as an aid in predicting college academic success

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THE INSTRUCTOR AND COURSE ATTITUDE SCALE AND ITS USE AS AN AID IN PREDICTING COLLEGE ACADEMIC SUCCESS

by

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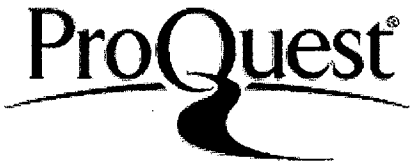

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TABLE OF CONTENTS

CHAPTER PAGE

CHAPTER I

INTRODUCTION

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INTRODUCTION

Previous investigations have shown that intelligence is of great importance in determining college grades and many writers have pointed out that the correlation between intelligence test grades is not a perfect one. Harris[1] reports that investigations have shown such correlations to range from 0.08 to 0.83 with the usual figure about 0.50. Students of average intelligence often receive the highest grades; the brighter students often do poorly; and people of equal ability often do unequal work.

It is evident therefore, that intelligence is not the only factor that aids in determining college grades. Attitudes, interests, health, personality, recreation, extra-curricular activities, and others are believed to be important in determining scholastic success and it is the aim of this introduction to show the findings thusfar regarding the relation between these various factors and the prediction of college success. A great many studies have been conducted on the relation between school work and particular personality and character traits as determined by ratings and the results are quite varied.

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1 Harris, D., "The Relation to College Grades of Some Factors other than Intelligence", Archives of Psychology, 20:5-55, 1931.

Flemming[2] using the Thorndike test as a measure of intelligence, the Colgate Schedule C-2 as the measure of introversion-extroversion, and a revision of the Pressey X-O Test as a measure of emotional response found the following relations with grades: Thorndike 0.37, introversion-extroversion 0.26, emotional intensity -0.12, emotional variability -0.10, emotional deviation -0.16, emotional reliability -0.29, pleasingness 0.10, steadiness -0.30, expressiveness 0.11, and adjustment 0.02. The correlation between grades and the composite score was 0.67.

Ryans[3] gave a battery of tests designed to measure persistance and found a correlation of 0.48 between scores on the test and scholarship.

Hartson[4] used a rating scale which included eight items: (1) ease of learning, (2) attitude toward school, (3) relation of achievement to ability or industry, (4) habit and methods of work, (5) reliability, (6) leadership, (7) emotional stability, and (8) appearance and manner. A principal's rating of students on these items correlated

2 Flemming, E. G., "College Achievement, Intelligence, Personality, and Emotion", Journal of Applied Psychology, 16:668-674, 1932.

3 Ryans, D. G., "A Study of the Observed Relationship between Persistence Tests Results, Intelligence Indices and Academic Success", Journal of Educational Psychology, 29:573-580, 1938.

4 Hartson, L. D., "Further Validation of the Rating Scales used with Candidates for Admission to Oberlin College", School and Society, 46:155-160, 1937.

0.47 for men and 0.37 for women with college scholarship; a teacher's rating correlated 0.47 for men and 0.34 for women; a friend's rating correlated 0.36 for men and 0.18 for women.

Laird[5] reports correlations between intelligence and grades for the following rated groups: Standard group (no extreme traits) +0.487; indolent group +0.34; deligent students -0.05; women who had dates 0.134; women who had no dates 0.427; students in love 0.20; engaged students 0.0; working for board 0.530; earning entire way 0.0; appearance -0.06.

Freeman[6] interviewed 68 sophomores and reasons given for not doing better work in their order of merit were as follows: lack of interest, poor study habits, loafing, athletic competitions, extra-curricular competitions, work for self-support, reading and study outside of courses, social activities, illness, and no apparent reason.

Using tests of specific traits or aptitudes Segel[7] reported a median coefficient of 0.37 with scholarship.

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5 Laird, D. A., "A Study of Some Factors Causing a Disparity between Intelligence and Scholarship in College Students", School and Society, 19:290-292, 1924.

6 Freeman, F. S., "Elusive Factors Tending to Reduce Correlations between Intelligence Test Ranks and College Grades", School and Society, 29:784-786, 1929.

7 Segel, D., "Differential Prediction of Ability as Represented by College Subject Groups", Journal of Educational Research, 25:14-16, 93-98, 1932.

Stagner[8] in a review of the literature makes the following conclusions:

> 1. Linear correlations of intelligence, achievement and personality measures are low and are probably so as a result of the inherent nature of the relationship..
> 2. Extreme personality trends seem to counter balance advantages in aptitude, making for equal achievement in both groups. High emotionality and high self-sufficiency lead to lower achievement than would be predicted from intelligence scores.
> 3. Personality factors have marked influence on the correlation of aptitude and achievement.[9]

The relation between interests and scholarship has attracted many investigators. Young and Estabrooks[10] using a special scoring of the Strong Vocational Interest Blank found that the items most prognosticatory of studiousness when taken together very closely resembled the accepted picture of the "introvert".

Jacobsen[11] in an extensive study carried out at the University of Minnesota obtained correlations of 0.30 to 0.44 between interests and scholarship.

There seems to be no general agreement as to the effect of extra-curricular activities on scholarship.

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8 Stagner, R., "The Relation of Personality to Academic Aptitude and Achievement", Journal of Educational Research, 26:648-660, 1933.

9 Loc. cit.

10 Young, C. W. and Estabrooks, G. H., "Nonintellective Factors Related to Scholastic Achievement", (Abstract) Psychological Bulletin, 31:735-736, 1934.

11 Monroe, W. S., Encyclopedia of Educational Research, (The MacMillan Company, Feb. 1941), p.849.

Harris[12, 13] reports in his two reviews that while a good many investigators have found that participation and leadership are associated with higher grades there are others who find the same relation with poor grades and a good many report negative results.

Knox and Davis[14] found that activities as a whole went with high grades and subdivided the various types as follows, in decending order of merit: (1) publications, (2) administrative and executive, (3) self-government, (4) athletics.

The effect of fraternity membership on grades has variously been reported as: favorable, unfavorable, neutral and conflicting.[15] Carter[16] found the relation between the index of promise, based upon high school records and score on the entrance intelligence examination, and

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12 Harris, D., "The Relation to College Grades of Some Factors other than Intelligence", Archives of Psychology, 20:9, 1931.

13 Harris, D., "Factors Affecting College Grades", A Review of Literature, 1930-1937. Psychological Bulletin, 37:139, 1940.

14 Knox, J. E. and Davis, R. A., "The Scholarship of University Students Participating in Extra-curricular Activities", Education, Administration and Supervision, 15:481-493, 1929.

15 Harris, op. cit., p. 10.

16 Carter, T. M., "The Effect of College Fraternities on Scholarship", Journal of Applied Psychology, 18:393-400, 1934.

scholarship to be 0.68 for fraternity men and 0.59 for non-fraternity men.

Wilson[17] reports a correlation of 0.34 between the number of courses taken in a department and grades received in that department. Several studies report that the better students are those who have concentrated on languages and mathematics or both in high school as well as college.[18, 19]

There apparently is no agreement among investigators as to the relation between purpose in coming to college and grades.[20]

Byrns[21] in a study of average college grades in the University of Wisconsin over a period of eight semesters found the following order of merit: (1) Agriculture; (2) Arts and Sciences; (3) Engineering; (4) Law. It is to be noted however, that other studies in regard to the above order of merit vary and the only constant finding by all investigations is the repeatedly poor showing of business students.

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17 Wilson, M. O., "Interests of College Students", American Journal of Psychology, 38:409-417, 1927.

18 Davis, C. O., "Courses Pursued by Members of Phi Beta Kappa", School and Society, 5:686-690, 1917.

19 Wilson, op. cit.

20 Harris, D., "The Relation to College Grades of Some Factors other than Intelligence", Archives of Psychology, 20:10-11, 1931.

21 Byrns, R., "Concerning College Grades", School and Society, 31:684-686, 1930.

Although it is generally supposed that poor physical condition is associated in some way with grades there are yet no conclusive results in the studies to date.[22]

Investigations regarding social background, economic status, outside work, and student load have all resulted in conflicting findings.[23]

More recent investigations have shown that high school grades show a higher correlation with college grades than does intelligence.[24]

Studies regarding the relation between instuctors, courses, and scholarship have been few in number. Remmers[25] found the correlation between students' ratings of instructors and grades to be 0.07. Blum[26] concludes that whatever grade a student may be attaining in a course, his estimation of the instructor's ability remains relatively constant and agrees with the average rating given this instructor by the

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22 Harris, D., "The Relation to College Grades of Some Factors other than Intelligence", Archives of Psychology, 20:11-13, 1931.

23 Ibid., pp.6-15.

24 Segel, D., "Prediction of Success in College", U.S. Office of Education Bulletin, 15:98, 1934.

25 Remmers, H. H., "The Relationship between Students Marks and Student Attitude Toward Instructors", School and Society, 28:759-760, 1928.

26 Blum, M. L., "An Investigation of the Relation between Student Grades and Their Rating of the Instructors Ability to Teach", Journal of Educational Psychology, 27:217-221, 1936.

entire student group involved.

Sartain[27] also made a study in which the problem was to determine the extent to which the judgment that a student makes concerning the interestingness of a college course is related to his judgments concerning its value and its difficulty, and also the extent to which these are related to the mark that he receives at the end of the course. He found that difficulty and marks were negatively related ($r = -.329$); value and marks were only slightly positively related ($r = .029$).

Several investigations have combined different factors to aid in predicting scholarship. Edds and McCall[28] combined average high school marks, Otis Group Intelligence test scores, and Cross English-test scores and obtained a multiple correlation with general scholarship of 0.81. Hartson[29] obtained a multiple correlation of 0.75 using a combination of average high school marks, the Ohio State Psychological Examination, and the Ohio State Performance Test. Crawford[30] using Yale students as subjects, found

27 Sartain, A. Q., "Relation of Marks in College Courses to the Interestingness, Value and Difficulty of the Courses", Journal of Educational Psychology, 36:561-567, 1945.

28 Edds, J. H. and McCall, W. M., "Predicting Scholastic Success of College Freshmen", Journal of Educational Research, 27:127-130, 1933.

29 Hartson, C. D., "The Most Valid Combination of 23 Tests for Predicting Freshman Scholarship at Oberlin College", Ohio College Association Bulletin, No. 58, 1928.

30 Crawford, A. B., "Forecasting Freshman Achievement", School and Society, 31:125-130, 1930.

a multiple correlation of 0.74 with a combination of College Entrance Examinations, average high school marks, a scholastic aptitude test and age at entrance.

Despite the enormous amount of research effort that has gone into the problem of predicting college achievement the results have been extremely varied. Correlations between high school grades and college grades and between intelligence tests and college grades have been found to be relatively high and stable. Multiple correlations with other measures have raised these figures somewhat. Motivation has been recognized as an important factor but one not consistently measureable. Actual individual prediction of college success still remains a precarious undertaking. Writers of this problem give many reasons for this failure, among which have been the low reliability of college marks and a lack of accurate measuring instruments of personality characteristics. There appear to be enormous variations of scholastic standards from one college to another. Uhrbrock[31] states: "the total pattern, or rhythm, of activities may be far more important than any single factor that may be isolated for study".

The writer agrees with the criticism of Harris that the investigations conducted in the field have three main faults: "(1) heterogenity of subjects, (2) failure to take

31 Uhlbrock, R. S., "The Freshman's Use of Time", Journal of Higher Education, 2:137-143, 1931.

account of intelligence differences in grades, and (3) failure to work out or to present results in satisfactory terms of statisical reliability".[32]

With so many inconsistent findings in the field, the writer felt the need of devising a test that would be, directly or indirectly, a measure of students' motivation which is a factor of probable significance for the prediction of college grades. It was with this idea in mind that the present study was begun.

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32 Harris, D., "The Relation to College Grades of Some Factors other than Intelligence", Archives of Psychology, 20:15, 1931.

CHAPTER II

THE PROBLEM

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THE PROBLEM

The foregoing summary may be interpreted to indicate that most factors except intelligence test scores bear little consistent relationship with scholarship. Much research is needed in order to predict the academic success of college students with more accuracy than has been possible on the basis on intelligence alone.

Motivation appears to be a factor that, if it were consistently measureable, might add to more successful prediction of scholarship. Specifically, this study is based on the following hypotheses:

1. Motivation, if it can be measured, should show some relationship to college achievement.

2. Although motivation may not be directly measureable, there may be certain indirect ways to approach its measurement.

3. It is conceivable that the highly motivated student may like certain characteristics of instructors, classroom procedures, and course contents which the student with minimal motivation may not and vice versa. Thus favoritism and genial prodding on the part of instructors, classes conducted entirely on the discussion basis, and narrowly outlined courses may motivate a student of average intelli-

gence to far surpass his expected performance. These same conditions may provide minimal motivation for a student of superior intelligence and cause him to fall short of his expected scholarship.

4. A test dealing with attitudes toward these aspects of the college situation should be a feasible approach as a means of discriminating between students of high and low motivation for scholarship.

It was with this hypothesis in mind that the present study was begun.

CHAPTER III

THE METHOD

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THE METHOD

The present chapter will describe the development of "The Instructor and Course Attitude Scale" designed to discriminate degrees of motivation for college achievement and will describe the methods used for its validation.

THE INSTRUCTOR AND COURSE ATTITUDE SCALE

The first step toward collecting items for the scale was to gain "first-hand" information from a group of students. The winter-quarter General Psychology Class, composed of a group of 128 individuals, was chosen for this purpose. The following questions were asked the group and they were requested to answer accordingly.

1. What personal characteristics of past and present instructors do you like?
2. What personal characteristics of past and present instructors do you dislike?
3. What kind of teaching methods do you like?
4. What kind of teaching methods do you dislike?
5. Do you like courses you are now taking and if so why?
6. Do you dislike courses you are now taking and if so why?

7. Specifically what courses do you like and dislike and why?

8. What kind of examinations do you prefer and in what manner and how often should they be given?

9. What kind of examinations do you dislike and why?

The students were not requested to sign their papers.

These responses were used as a basis for formulating items and additional ones were added until one hundred items[1] were selected to constitute the scale. Only factors directly related to courses and instructors were considered suitable to use as items.

These items were then placed in random order by use of a table of random numbers[2].

Five different degrees of attitude statement were arranged to permit multiple choice response to each item. The instructions were as follows:

INSTRUCTIONS

This is a questionnaire to determine the preferences of students regarding the characteristics of instructors and courses. You are to indicate your attitude toward the instructors and courses described by the various items.

EXAMPLE

a b c d e 1. Instructors who give unannounced quizzes.

1 See Instructor and Course Attitude Scale, Appendix A, p. 33.

2 Lindquist, E. F., Statistical Analysis in Educational Research, (New York, Houghton Mifflin Company, 1940) pp. 262-264.

If you strongly like such instructors encircle letter a.
If you like such instructors encircle letter b.
If you are indifferent encircle letter c.
If you dislike such instructors encircle letter d.
If you strongly dislike such instructors encircle letter e.

Please answer each question. There is no time limit but do not spend too much time on any one item. When you are sure you fully understand these directions turn the page and begin.

THE SUBJECTS

The Scale was given to 348 subjects who were enrolled in Freshmen Women's Physical Education Classes. This number was reduced to 211 subjects for the following reasons. First, it was felt that each subject must have at least two quarters grade results to be included; second, complete data on some was not available; third, in some classes there were women in attendence who were not Freshmen.

TABLE I

NUMBER OF SUBJECTS REPRESENTED IN THE PRESENT STUDY WHO TOOK THE INSTRUCTOR AND COURSE ATTITUDE SCALE ON THE VARIOUS EXAMINATION DATES

Examination date	Number of subjects
June 5, 1946	204
June 6, 1946	83
June 7, 1946	61
Total	348
Number Eliminated*	137
Total used in study	211

* 1. Those who did not have at least two quarters grade results were eliminated.
2. Those for whom complete data was not available were eliminated.
3. Those who were not Freshmen were eliminated.

The Scale was administered by members of the Women's Physical Education Staff and by the writer. A group meeting was held to insure uniform methods of administering the Scale.

Table II shows that approximately 80% were either 18 or 19 years of age at the birthday preceding the examination. Hardly 5% were under 18 years, and not more than 15% were over 19 years of age.

TABLE II

AGE DISTRIBUTION OF SUBJECTS AT BIRTHDAY PRECEDING THE EXAMINATIONS

Age	Number	Percent of total
17	10	4.74
18	88	41.71
19	80	37.92
20	20	9.48
21	8	3.79
22	1	.47
23	0	.00
24	1	.47
25	2	.95
30	1	.47
Totals	211	100.00

The 211 subjects were divided into Group I and Group II by first alphabetizing the entire group and then putting the odd numbers into Group I and the even numbers into Group II. Thus divided, the number in Group I was 106 and the number in Group II was 105. It was the plan in this study to use Group I as the test Group with

which to work out scoring value of the scales and to use Group II as the unselected Group with which the scale was to be validated.

Using Group I, the next step was to find and tabulate the grade point average of each individual. Grade point averages[3] were arrived at by dividing the number of honor points[4] received by the number of credits carried. Table III shows the grade point average distribution of Group I. The Median was 1.27.

As a criterion to compute scoring values there had to be a high scholastic group and a low scholastic group. This was accomplished by dividing Group I into two subgroups. Subgroup I consisted of students having grade point averages above the Median (1.27). Subgroup II was composed of students having grade point averages below the Median (1.27). The number of subjects in each subgroup choosing each response to each item of the Scale was then tabulated. The percentage[5] choosing each response to each item was found.

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3 A equals 3.0
B equals 2.0
C equals 1.0
Below C equals 0.0

4 A equals 3 honor points per credit.
B equals 2 honor points per credit.
C equals 1 honor point per credit.
D equals 0 honor points per credit.
F equals minus the number of credits.

5 See Percentage Table, Appendix H, p. 51.

TABLE III

GRADE POINT AVERAGE DISTRIBUTION OF GROUP I

Grade points	Frequency	Cumulative frequency
3.00		
2.90-2.99	1	106
2.80-2.89	0	105
2.70-2.79	1	105
2.60-2.69	1	104
2.50-2.59	4	103
2.40-2.49	2	99
2.30-2.39	2	97
2.20-2.29	0	95
2.10-2.19	2	95
2.00-2.09	3	93
1.90-1.99	4	90
1.80-1.89	3	86
1.70-1.79	3	83
1.60-1.69	6	80
1.50-1.59	5	74
1.40-1.49	5	69
1.30-1.39	9	64
1.20-1.29	7	55
1.10-1.19	13	48
1.00-1.09	6	35
.90- .99	4	29
.80- .89	5	25
.70- .79	3	20
.60- .69	6	17
.50- .59	4	11
.40- .49	2	7
.30- .39	1	5
.20- .29	0	4
.10- .19	1	4
.00- .09	3	3

Median = 1.27 N = 106

Scoring values for each item were determined by means of an abac prepared by Strong.[6] This abac is based upon a formula developed by Kelley[7], and provides scoring values ranging from 0 to 32 in terms of the percentage of responses of a given kind by any two groups which differ according to some criterion.

Since some of the scoring values thus obtained were negative it was necessary to convert these into plus values. This was accomplished by finding the highest negative value of the Scale and adding this number to all scoring values. This highest negative value of the Scale was found to be -11 and this figure was then added to each original scoring value. The values thus obtained were divided by 2, in order to reduce the magnitude of scoring values to a more practicable size. These scoring values[8] were then used to score each Scale of Group I and Group II. Any individual's score was composed of the total of the scoring values assigned to his responses.

Correlations for each Group (I and II) separately, were computed between the grade point averages and Scale scores, between the ACE scores and Scale scores, and between the grade point averages and ACE scores. Multiple

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6 An unpublished photostatic copy of this abac was available through the courtesy of E. A. Atkinson.

7 Kelley, T. L. "The Scoring of Alternative Responses with Reference to Some Criterion", Journal of Educational Psychology, 25:504-510, 1934.

8 See Scoring Table, Appendix G, p. 48.

correlations between the grade point average and the best combination of scores on the ACE and the Scale were computed for the two Groups.

The reliability of the Scale was found by using the split-test method and applying the Spearman-Brown formula for correction. These methods will be treated in more detail in the following chapter on results.

CHAPTER IV

THE RESULTS

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THE RESULTS

In presenting the results of the present study the plan has been to deal with the analysis of the data in the following order: (1) reliability of the Instructor and Course Attitude Scale; (2) correlations for Group I; (3) correlations for Group II; (4) multiple correlations; and (5) analysis of preferences for Scale items to indicate characteristics of instructors and course procedures differentially preferred by "achievers" and "non-achievers".

Because the items were in random order it was considered valid to determine reliability by correlating the scores on the first fifty items with scores of the second fifty items. In this step Group I and II were combined with N = 211. The correlation between scores on the two halves was 0.6054. Application of the Spearman-Brown[1] correction formula yielded an estimated reliability of 0.7355 for the whole test.

The following table shows the intercorrelations among grade point averages, ACE scores and Scale scores for Group I. The relation between grade point averages and Scale scores yielded a correlation of 0.5349.

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1 Guilford, J. P., Psychometric Methods, (New York, McGraw-Hill Book Company, Inc., 1936), p.419.

This rather high relation was to be expected since the Scale scoring values were based on this Group. The correlation between the Scale scores and ACE scores was 0.3054 and between grade point averages and ACE scores a correlation of 0.3987 was obtained.

TABLE IV

CORRELATIONS FOR GROUP I BETWEEN GRADE POINT AVERAGE, ACE SCORES AND SCALE SCORES

	Scale	Grade point average
ACE	.3054	.3987
Scale	.....	.5349

Table V shows intercorrelations among grade point averages, ACE scores, and Scale scores for Group II. A correlation of 0.4037 was found between grade point averages and Scale scores. It is worth noting here that this group was not used in obtaining Scale scoring values and therefore indicates favorable validity of the Scale. The relation between ACE scores and Scale scores resulted in a correlation of 0.426. A correlation of 0.4427 was found between the grade point averages and ACE scores.

TABLE V

CORRELATIONS FOR GROUP II BETWEEN GRADE POINT AVERAGE, ACE SCORES AND SCALE SCORES

	Scale	Grade point average
ACE	.4260	.4427
Scale	.....	.4037

Multiple correlations[2] are shown in Table VI.

TABLE VI*

MULTIPLE CORRELATIONS BETWEEN GRADE POINT AVERAGES, ACE SCORES AND SCALE SCORES

	B12.3	B13.2	R1.23
Group I	.2815	.4556	.5966
Group II	.3308	.2627	.5025

*Variable 1 represents grade point averages.
Variable 2 represents ACE scores.
Variable 3 represents Scale scores.

Thus we find that for Group I B12.3 = 0.2815, B13.2 = 0.4556, and R1.23 = 0.5966. The correlation between grade point average and the best combination of ACE scores and Scale scores is 0.5966.

For Group II we find that B12.3 = .3308, B13.2 = .2627, and R1.23 = .5025. Thus the correlation between grade point average and the best weighted combination of ACE scores and Scale scores is 0.5025. The latter figures indicate that in the prediction of academic success the Instructor and Course Attitude Scale measures some factor or factors that are not measured by the ACE, and that if the ACE and the Scale were combined the accuracy of predicting scholarship would be greater than if the ACE or the Scale were used by itself.

The following are results of an item analysis of the Instructor and Course Attitude Scale in order to find

2 Ibid.

what specific characteristics of instructors, course contents, and course procedures are differentially liked by "achievers" and "non-achievers". An arbitrary criterion for choosing items which discriminated between the subgroups used for determination of scoring weights was applied as follows. The percentages of each subgroup who selected a and b responses and who selected d and e responses were compared. When such comparisons yielded differences as great as 14 per cent the item was chosen as "discriminating" for purposes of this analysis.

The items immediately below were "discriminating" items which were liked by a greater percentage of the High Group than of the Low Group.

5. Instructors who proctor their tests well so that no one can cheat.

6. Courses that are elective that deal with languages.

33. Courses in foreign languages when they do not contribute to my major field.

34.* Instructors who leave it up to me as to how much work I should do.

38. Instructors of the male sex.

64. Courses that are elective that deal with poetry.

69. Courses that do not contribute directly to my major.

73.* Courses that are required that deal with ancient culture.

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* These items were "discriminating" to the extent of 13 per cent.

Characteristics of instructors and courses that were liked by a greater proportion of the Low Group than of the High Group are as follows:

52. Courses that are conducted entirely on the class discussion basis.

57. Instructors who prod a lazy student to do more work.

62. Instructors who lecture from the text only.

67. Instructors who sternly warn those in the lower half of the class that they had better get busy or they will flunk.

81. Instructors who always let the class out before the bell rings.

90. Courses that are concrete in content and require very little complex thinking.

The foregoing indicates that the poorer students liked courses conducted on the class discussion basis and courses that are concrete in content and require very little complex thinking. Instructors who lecture from the text only were liked; those who prod the students to do better work and who warn the laggards of deficiencies found favor; and those who cut the class period short were also liked.

The "discriminating" items below were disliked by a greater proportion of the Low Group than of the High Group.

6.* Courses that are elective that deal with languages.

* This item was "discriminating" to the extent of 10 per cent.

33. Courses in foreign languages when they do not contribute to my major field.

34. Instructors who leave it up to me as to how much work I should do.

69. Courses that do not contribut directly to my major.

73. Courses that are required that deal with ancient culture.

75. Instructors who give essay examinations to allow the student to show how well he really understands the subject.

87. Courses that I get poor grades in.

The above indicates that the poorer students disliked courses in languages; required courses that deal with ancient culture; courses that do not contribute to the student's major; and courses in which they received poor grades. They disliked instructors who leave it up to the individual as to the amount of work he should do and instructors who give essay examinations.

There were other items on the Scale that showed discrimination to a lesser degree, but these were not included since their interpretation would be less dependable.

CHAPTER V

SUMMARY AND CONCLUSIONS

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SUMMARY

Because intelligence is inadequate for the prediction of scholarship it was believed that motivation should be significantly related to college achievement. A test dealing with attitudes toward certain characteristics of instructors, course contents, and class procedures was employed as a possible means of discriminating between students of high and low motivation for scholarship.

The Instructor and Course Attitude Scale was developed using 211 Freshmen women from Montana State University as subjects, half of whom (Group I) were used to determine scoring values for the items. The validity findings for the remaining subjects (Group II) were as follows: the correlation between grade point average and Scale scores was 0.4037, between ACE scores and Scale scores was 0.4260, and between grade point average and ACE scores was 0.4427. The multiple correlation (R1.23) equalled 0.5025. These results indicate that the prediction of academic success can be done more accurately with a combination of the ACE and the Instructor and Course Attitude Scale than would be possible by means of the ACE alone.

The split-test reliability, after correction by the Spearman-Brown formula, was 0.7355.

By means of item analysis it was found that the better students liked instructors who are of the male sex; those who maintain strict class discipline; and those who assign a large quantity of work in a given course but leave it up to the individual as to how and when he should do the work; while they dislike instructors who use up the time in a class period for the telling of funny unrelated stories; who lecture from the text only; and who will not personally mix with the students.

The poorer students were found to like instructors who lecture from the text only; who prod laggards to do better work; and who cut the class periods short. They were shown to dislike instructors who give essay examinations and who leave it up to the individuals discretion as to the amount of work they should do.

The better students were found to like courses in languages and courses that contribute to cultural background; while they were found to dislike courses that are conducted entirely on the class discussion basis.

The poorer students were found to like courses that are conducted entirely on the class discussion basis, and courses that are concrete in content and require very little complex thinking. They were found to dislike

courses that deal with languages and culture; courses that do not contribute to the student's major; and courses in which they receive poor grades.

LIMITATIONS

In viewing the Scale in regard to its prediction value there are certain limitations to be considered: (1) the Scale was given to Freshmen women who had had at least two quarters of college work so that the responses may possibly have been a result of past achievement rather than a contributing cause of achievement; (2) because the scale was given to women only it is uncertain whether similar results would be obtained with male students; (3) the Scale was constructed and validated on the basis of a criterion depending on the grading methods in use at Montana State University, so that it is unknown whether the same results would be obtainable in other schools which may differ from Montana State University in this and other respects; (4) the reliability of the Scale was found to be lower than ideally desirable; (5) the grades themselves may not have been a satisfactory criteria of academic achievement, since the reliability of grades may be questionable and since they do not possess equal linear units; (6) the conclusion to follow must be interpreted in the light of these limitations, and must be considered

to have limited generality of application.

CONCLUSIONS

It seems evident that the Instructor and Course Attitude Scale measures some factor that is related to college achievement. The combination of the ACE and the Scale was shown to have a slightly higher predictive value than that of the ACE alone. This value appears to be of limited significance. The Scale revealed certain characteristics of instructors and courses that were differentially liked by good and poor students. Knowledge of these characteristics may possibly have usefulness in the guidance of students.

RECOMMENDATIONS

Some of the limitations of the present study could be remedied by means of the following procedures: (1) to eliminate the possibility that the results may have been a reflection of past achievement rather than a basis of achievement, the Scale should be given to students immediately upon entering college; (2) the Scale should be given to a heterogeneous group to determine whether sex differences would occur; (3) the reliability of the Scale might be raised by the elimination of the non-discriminating items; (4) because grades themselves may not be satisfactory criteria of academic success the scores from achievement tests might better be used to serve this purpose.

BIBLIOGRAPHY

Blum, M. L., "An Investigation of the Relation between Student Grades and Their Rating of the Instructors Ability to Teach", Journal of Educational Psychology, 27:217-221, 1936.

Byrns, R., "Concerning College Grades", School and Society, 31:684-686, 1930.

Carter, T. M., "The Effect of College Fraternities on Scholarship", Journal of Applied Psychology, 18:393-400, 1934.

Corey, S. M., "Signed Versus Unsigned Attitude Questionnaires", Journal of Educational Psychology, 28: 144-148, 1937.

Crawford, A. B., "Forecasting Freshman Achievement", School and Society, 31:125-130, 1930.

Davis, C. O., "Courses Pursued by Members of Phi Beta Kappa", School and Society, 5:686-690, 1917.

Du Bois, P. H., "Achievement Ratios of College Students", Journal of Educational Psychology, 29:14-28, 114-134, 1938.

Edds, J. H. and Mc Call, W. M., "Predicting the Scholastic Success of College Freshmen", Journal of Educational Research, 27:127-130, 1933.

Flemming, E. G., "College Achievement, Intelligence, Personality and Emotion", Journal of Applied Psychology, 16:668-674, 1932.

Freeman, F. S., "Elusive Factors Tending to Reduce Correlations between Intelligence Test Ranks and College Grades", School and Society, 29:784-786, 1929.

Gerberich, J. R., "Factors Related to the College Achievement of High-Aptitude Students Who Fail of Expectation and Low-Aptitude Students Who Exceed Expectation", Journal of Educational Psychology, 32:253-266, 1941.

Gilford, J. P., Psychometric Methods, New York: Mc Graw-Hill Book Company, Inc., 1936. pp. 381-384, 419.

Harris, D., "The Relation to College Grades of Some Factors Other than Intelligence", Archives of Psychology, 20:5-55, 1931.

_____, "Factors Affecting College Grades", A Review of Literature, 1930-1937. Psychological Bulletin, 37:125-166, March, 1940.

Hartson, C. D.,"The Most Valid Combination of 23 tests for Predicting Freshman Scholarship at Oberlin College", Ohio College Association Bulletin, 58, 1928.

Hartson, L. D., "Further Validation of the Rating Scales Used with Candidates for Admission to Oberlin College", School and Society, 46:155-160, 1937.

Kelly, T. L., "The Scoring of Alternative Responses With Reference to Some Criterion", Journal of Educational Psychology, 25:504-510, 1934.

Knox, J. E. and Davis, R. A., "The Scholarship of University Students Participating in Extra-Curricular Activities", Education, Administration and Supervision, 15:481-493, 1929.

Laird, D. A., "A Study of Some Factors Causing a Disparity between Intelligence and Scholarship in College Students", School and Society, 19:290-292, 1924.

Lindquist, E. F., "Statistical Analysis in Educational Research."New York: Houghton Mifflin Company, 1940, pp. 262-264.

Monroe, W. S., Encyclopedia of Educational Research. New York: The MacMillan Company, February, 1941, p.849.

Read, C. B., "A Note on Reliability by the Chance Halves Method", Journal of Educational Psychology, 30:510-518, 1939.

Remmers, H. H., "The Relationship between Students Marks and Student Attitude Toward Instructors", School and Society, 28:759-760, 1928.

Ryans, D. G., "A Study of the Observed Relationship between Persistence Test Results, Intelligence Indices and Academic Success", Journal of Educational Psychology, 29:573-580, 1938.

Sartain, A. Q., "Relation of Marks in College Courses to the Interestingness, Value and Difficulty of the Courses", Journal of Educational Psychology, 36:561-567, 1945.

Segel, D., "Differential Prediction of Ability as Represented by College Subject Groups", Journal of Educational Research, 25:14-16, 93-98, 1932.

_____, "The Prediction of Success in College", United States Office of Education Bulletin, 15:98-99, 1934.

Segel, D. and Gerberich, J. R., "Differential College Achievement Predicted by the American Council Psychological Examination", Journal of Educational Psychology, 17:637-645, 1933.

Stagner, R., "The Relation of Personality to Academic Aptitude and Achievement", Journal of Educational Research, 26:648-660, 1933.

Uhlbrock, R. S., "The Freshman's Use of Time", Journal Of Higher Education, 2:137-143, 1931.

Wilson, M. O., "Interests of College Students", American Journal of Psychology, 38:409-417, 1927.

Young, C. W. and Estabrooks, G. H., "Nonintellective Factors Related to Scholastic Achievement", (Abstract) Psychological Bulletin, 31:735-736, 1934.

APPENDICES

APPENDIX A

THE INSTRUCTOR AND COURSE ATTITUDE SCALE

NAME_____

AGE_____

INSTRUCTIONS

This is a questionnaire to determine the preferences of students regarding the characteristics of instructors and courses. You are to indicate your attitude toward the instructors and courses described by the various items.

EXAMPLE

a b c d e 1. Instructors who give unannounced quizzes.

If you strongly like such instructors encircle letter a.

If you like such instructors encircle letter b.

If you are indifferent encircle letter c.

If you dislike such instructors encircle letter d.

If you strongly dislike such instructors encircle letter e.

Please answer each question. There is no time limit but do not spend too much time on any one item. When you are sure you fully understand these directions turn the page and begin.

a - strongly like
b - like
c - indifferent
d - dislike
e - strongly dislike

a b c d e 1. Instructors who give unannounced quizzes.

a b c d e 2. Courses that require a term paper on some closely allied topic.

a b c d e 3. Instructors who lecture in loud voices.

a b c d e 4. Instructors who have class favorites.

a b c d e 5. Instructors who proctor their tests well so that no one can cheat.

a b c d e 6. Courses that are elective that deal with languages.

a b c d e 7. Instructors who give frequent exams but give the final exam about a 75% weight towards the final grade.

a b c d e 8. Instructors who appear not to care whether or not I learn.

a b c d e 9. Instructors who hold a class or two outside when the weather permits.

a b c d e 10. Instructors who present a neat appearance.

a b c d e 11. Instructors who encourage a class discussion.

a b c d e 12. Instructors who seem not to care what sort of clothes they wear.

a b c d e 13. Instructors who assign more work for over the week-end because they figure I will have more time to study.

a b c d e 14. Instructors who talk in a monotone.

a b c d e 15. Instructors who constantly stare out the window or at the ceiling while conducting class.

a b c d e 16. Instructors who skip over simple points because they assume I should understand them.

a b c d e 17. Courses that deal with present day interests and not with the distant past or the dim future.

a b c d e 18. Instructors who are willing to spend extra time with students who fall behind.

a b c d e 19. Instructors who present their material by lecturing half the time and having open class discussion half the time.

a.b c d e 20. Instructors who assign outside reading and require written reports on that outside reading.

a b c d e 21. Instructors who devote at least one class period for review before each test.

a b c d e 22. Instructors who feel that the text material is the student's responsibility and lectures on outside related material.

a b c d e 23. Instructors who make me think instead of simply telling me every answer.

a b c d e 24. Instructors who seem to think their class is the only class I have.

a b c d e 25. Instructors who grade according to the class frequency curve rather than their own personal standards.

a b c d e 26. Instructors who, when they inform me that I will have to do better work to pass, have help and encouragement to offer.

a b c d e 27. Instructors who strictly maintain their distance both in and out of class.

a b c d e 28. Instructors who grade by test results only.

a b c d e 29. Instructors who are friendly out of class and will take a moment to talk with me when I meet them.

a b c d 2 30. Instructors who emphasize important points by understandable examples and illustrations.

a b c d e 31. Instructors who have a sense of humor.

a b c d e 32. Instructors who walk about the classroom a good deal while lecturing.

a b c d e 33. Courses in foreign languages when they do not contribute to my major field.

a b c d e 34. Instructors who leave it up to me as to how much work I should do.

a b c d e 35. Instructors who do not return test papers.

a b c d e 36. Courses that contribute to my cultural background.

a b c d e 37. Courses that require more memory work than thinking.

a b c d e 38. Instructors of the male sex.

a b c d e 39. Instructors who ask questions in class and call on all students.

a b c d e 40. Instructors who tell many funny stories during the class period.

a b c d e 41. Instructors who often use more of the class period telling of their interesting personal experiences.

a b c d e 42. Instructors who feel that my test grades indicate exactly how much I know about the subject.

a b c d e 43. Instructors who assign a lot of written work.

a b c d e 44. Instructors who use variety in lecture presentation.

a b c d e 45. Courses that are elective that deal with ancient culture.

a b c d e 46. Instructors who hold class overtime when the subject of the day is very interesting.

a b c d e 47. Instructors who will take time to help students with academic difficulties.

a b c d e 48. Instructors who are friendly enough to help me with personal problems.

a b c d e 49. Instructors who give objective tests (true - false, multiple-choice, etc).

a b c d e 50. Courses that require much outside library reference.

a b c d e 51. Instructors who prepare an outline of the material to be covered during the quarter and make this outline available to the students.

a b c d e 52. Courses that are conducted entirely on the class discussion basis.

a b c d e 53. Instructors who appear nervous and fidgety in class.

a b c d e 54. Instructors who give individual oral tests besides the regular class exams.

a b c d e 55. Instructors who try to get to know their students personally.

a b c d e 56. Instructors who never cover the amount of material they stated they would cover at the beginning of the quarter.

a b c d e 57. Instructors who prod a lazy student to do more work.

a b c d e 58. Instructors who hold me responsible for outside references.

a b c d e 59. Courses that are required that deal with literature.

a b c d e 60. Instructors who make sure the subject is clear to the entire class before dropping it.

a b c d e 61. Courses that are of a specialized content and that apply directly to my major field.

a b c d e 62. Instructors who lecture from the text only.

a b c d e 63. Instructors who realize that some of us learn more slowly than others.

a b c d e 64. Courses that are elective that deal with poetry.

a b c d e 65. Instructors who, on an exceptionally nice day, will walk into class, give an assignment and then dismiss the class.

a b c d e 66. Courses that I get good grades in.

a b c d e 67. Instructors who sternly warn those in the lower half of the class that they had better get busy or they will flunk.

a b c d e 68. In structors who continually say, "we will deal with this subject later," and never bring the subject up again.

a b c d e 69. Courses that do not contribute directly to my major.

a b c d e 70. Instructors who do not give me time to take notes while they lecture.

a b c d e 71. Instructors who consider it worthwhile to go over a test thoroughly and answer questions about it as soon as possible after it has been given.

a b c d e 72. Courses that are fully covered by daily lectures.

a b c d e 73. Courses that are required that deal with ancient culture.

a b c d e 74. Instructors who evade or answer vaguely questions asked by me in class.

a b c d e 75. Instructors who give essay examinations to allow the student to show how well he really understands the subject.

a b c d e 76. Instructors who make me feel I want to learn more about the subject than what they give me in class.

a b c d e 77. Instructors who have strict class discipline.

a b c d e 78. Courses that are required that deal with writing.

a b c d e 79. Instructors who admit they do not know all the answers.

a b c d e 80. Courses that are elective that deal with literature.

a b c d e 81. Instructors who always let the class out before the bell rings.

a b c d e 82. Courses that are elective that deal with writing.

a b c d e 83. Instructors who make me work hard (because I learn more that way).

a b c d e 84. Instructors who will always tell me definitely where I stand in regard to the rest of the class.

a b c d e 85. Instructors who give catchy exams.

a b c d e 86. Instructors who summarize the important points dealt with at the end of each class period.

a b c d e 87. Courses that I get poor grades in.

a b c d e 88. Courses that are required that deal with poetry.

a b c d e 89. Instructors who give out assignments at least a week ahead of time.

a b c d e 90. Courses that are concrete in content and require very little complex thinking.

a b c d e 91. Courses that contribute directly to my major field.

a b c d e 92. Instructors who in addition to teaching their classes show an interest in campus activities.

a b c d e 93. Instructors who give tests covering only the material they present in class.

a b c d e 94. Instructors who take roll-call every day.

a b c d e 95. Instructors who are honestly interested in the material they are presenting.

a b c d e 96. Courses that do not require much outside study.

a b c d e 97. Courses that are required that deal with languages.

a b c d e 98. Courses that are experimental in nature.

a b c d e 99. Instructors who give weekly quizzes.

a b c d e 100. Instructors who assume a superior attitude.

If you have any additional likes or dislikes regarding instructors or courses would you please write them below.

APPENDIX B

GRADE POINT AVERAGE, ACE SCORES AND SCALE SCORES FOR GROUP I

Number	Grade point average	ACE score	Scale score
1.	.47	100	456
2.	2.50	139	587
3.	.78	96	495
4.	1.21	116	502
5.	1.23	86	560
6.	1.31	66	583
7.	1.63	89	563
8.	.72	81	534
9.	.43	17	515
10.	1.12	87	530
11.	.38	60	544
12.	.88	85	543
13.	1.65	123	595
14.	1.47	138	587
15.	1.76	118	581
16.	1.44	105	606
17.	.53	91	520
18.	1.18		517
19.	2.54	80	574
20.	.90	99	512
21.	1.00	105	493
22.	1.81	102	564
23.	.81	95	538
24.	2.41	111	605
25.	1.08	104	537
26.	1.21	119	542
27.	2.03	123	581
28.	1.43	90	579
29.	1.17	122	576
30.	.67	87	487
31.	.82	92	521
32.	1.43	74	571
33.	.56	96	527
34.	.06	66	540
35.	1.96	123	623

APPENDIX B (continued)

GRADE POINT AVERAGE, ACE SCORES AND SCALE SCORES FOR GROUP I

Number	Grade point average	ACE score	Scale score
36.	.75	90	528
37.	1.19	98	487
38.	2.31	91	579
39.	1.18	93	498
40.	2.96	168	608
41.	1.18	79	463
42.	1.12	103	537
43.	1.17	67	502
44.	2.38	96	529
45.	.88	75	522
46.	1.65	95	575
47.	1.64	89	548
48.	1.29		548
49.	1.23	142	548
50.	1.36	138	622
51.	.96	57	485
52.	1.34	64	626
53.	2.57	129	599
54.	.51	85	498
55.	2.12	115	590
56.	1.15	79	541
57.	1.30	113	590
58.	.62		544
59.	.85		561
60.	2.00	134	596
61.	1.66		604
62.	1.79	108	574
63.	1.93		552
64.	2.58	119	595
65.	.93		495
66.	2.67		572
67.	1.15	85	448
68.	1.35	134	594
69.	2.07	118	581
70.	.65	60	511

APPENDIX B (continued)

GRADE POINT AVERAGE, ACE SCORES AND SCALE SCORES FOR GROUP I

Number	Grade point average	ACE score	Scale score
71.	1.58		572
72.	-.11	97	523
73.	1.57	145	598
74.	1.97	118	594
75.	1.00	114	537
76.	1.20	48	522
77.	1.50	96	586
78.	1.72	75	558
79.	.08	85	548
80.	1.15	104	528
81.	1.17	83	510
82.	1.40	105	580
83.	.90	104	551
84.	2.19	130	559
85.	1.34	97	601
86.	1.34		604
87.	1.31	87	602
88.	1.00	77	537
89.	1.06	100	564
90.	.68	90	537
91.	.15	97	512
92.	1.57	100	590
93.	1.93	95	599
94.	2.75	120	567
95.	1.00	120	495
96.	1.56	73	576
97.	1.17	117	573
98.	.50	123	549
99.	1.31	97	591
100.	.62	80	561
101.	1.28	69	592
102.	1.32	59	567
103.	.60	103	565
104.	1.87	88	558
105.	1.65	122	559
106.	2.46	117	559

APPENDIX C

GRADE POINT AVERAGE, ACE SCORES AND SCALE SCORES FOR GROUP II

Number	Grade point average	ACE score	Scale score
1.	2.27	158	590
2.	.85	68	540
3.	1.16	83	511
4.	2.27		565
5.	.50	97	553
6.	.83	123	541
7.	2.76	77	587
8.	1.70	95	587
9.	.70	84	539
10.	1.46	100	571
11.	1.81	122	583
12.	1.50	101	542
13.	1.56		564
14.	1.69	128	551
15.	1.29	106	584
16.	2.06	141	587
17.	.78	90	552
18.	1.50	100	536
19.	2.38	112	537
20.	1.75	122	563
21.	1.00	107	568
22.	2.00	95	544
23.	1.73	104	578
24.	2.11	81	526
25.	.78	121	565
26.	1.58	87	544
27.	1.00	105	556
28.	.65	79	476
29.	1.53		548
30.	2.45	132	570
31.	1.15		542
32.	2.14	135	583
33.	2.41	149	588
34.	.78	91	538
35.	1.37	77	561

APPENDIX C (continued)

GRADE POINT AVERAGE, ACE SCORE AND SCALE SCORES FOR GROUP II

Number	Grade point average	ACE score	Scale score
36.	2.28	88	569
37.	2.73	89	550
38.	1.48	105	577
39.	.92	103	554
40.	.72	86	568
41.	1.29	120	530
42.	1.53	82	544
43.	1.21	121	541
44.	2.46	156	608
45.	1.33		553
46.	2.35	115	568
47.	2.16	119	585
48.	1.29		573
49.	2.26	130	562
50.	.64		537
51.	1.50	126	535
52.	1.63	116	544
53.	.62	115	535
54.	.89	46	507
55.	2.02	87	568
56.	.87	95	502
57.	.78	115	511
58.	1.50	63	563
59.	1.03	107	565
60.	1.32	116	573
61.	1.41		575
62.	1.48	110	507
63.	1.21	100	538
64.	2.65		556
65.	1.06		593
66.	1.46	151	562
67.	2.27	117	547
68.	1.51	70	571
69.	2.51	114	570
70.	2.45	114	567

APPENDIX C (continued)

GRADE POINT AVERAGE, ACE SCORES AND SCALE SCORES FOR GROUP II

Number	Grade point average	ACE score	Scale score
71.	2.18	118	566
72.	.44	115	546
73.	1.20	86	568
74.	-.31	63	540
75.	1.00		576
76.	1.65	101	584
77.	.62	107	566
78.	.40	71	597
79.	1.66	113	588
80.	1.06	82	520
81.	.76	57	548
82.	1.00	108	580
83.	2.10	132	564
84.	1.00	149	537
85.	1.06	102	523
86.	2.34	101	575
87.	.65	63	510
88.	.73	128	554
89.	.74	107	568
90.	1.03	103	557
91.	.87	105	566
92.	.76	63	541
93.	1.54	71	499
94.	1.51	65	509
95.	1.66	114	572
96.	1.10	100	507
97.	.95	82	532
98.	1.96	109	576
99.	1.18	98	542
100.	.62	72	523
101.	1.31	99	520
102.	2.36	150	585
103.	.78	59	540
104.	1.09	106	557
105.	1.09	83	556

APPENDIX D

FREQUENCY DISTRIBUTION OF GRADE POINT AVERAGE FOR GROUP I AND GROUP II

Grade point	Group I	Group II
3.00		
2.90-2.99	1	0
2.80-2.89	0	0
2.70-2.79	1	2
2.60-2.69	1	1
2.50-2.59	4	1
2.40-2.49	2	4
2.30-2.39	2	4
2.20-2.29	0	5
2.10-2.19	2	4
2.00-2.09	3	4
1.90-1.99	4	1
1.80-1.89	3	1
1.70-1.79	3	4
1.60-1.69	6	5
1.50-1.59	5	11
1.40-1.49	5	5
1.30-1.39	9	4
1.20-1.29	7	6
1.10-1.19	13	4
1.00-1.09	6	12
.90- .99	4	2
.80- .89	5	5
.70- .79	3	10
.60- .69	6	6
.50- .59	4	1
.40- .49	2	2
.30- .39	1	0
.20- .29	0	0
.10- .19	1	0
.00- .09	3	1
	N = 106	N = 105

APPENDIX E

FREQUENCY DISTRIBUTION OF ACE SCORES FOR GROUP I AND GROUP II

ACE	Group I	Group II
159	1	1
152	0	1
145	1	4
138	4	1
131	2	3
124	2	3
117	15	10
110	5	12
103	9	14
96	14	11
89	12	6
82	10	11
75	8	4
68	3	5
61	4	5
54	4	2
47	1	0
40	0	1
	N = 95	N = 94

APPENDIX F

FREQUENCY DISTRIBUTION FOR THE INSTRUCTOR AND COURSE ATTITUDE SCALE FOR GROUP I AND GROUP II

Scale	Group I	Group II
620	3	0
610	0	0
600	7	1
590	13	3
580	8	12
570	11	13
560	9	21
550	8	12
540	11	17
530	8	11
520	9	5
510	6	3
500	2	5
490	6	1
480	3	0
470	0	1
460	1	0
450	1	0
	N = 106	N = 105

APPENDIX G

SCORING VALUES FOR THE INSTRUCTOR AND COURSE ATTITUDE SCALE

Item	a	b	c	d	e
1.	1	9	5	6	5
2.	11	6	5	5	6
3.	5	7	4	5	11
4.	10	6	6	6	5
5.	9	4	3	7	1
6.	9	6	4	3	3
7.	6	3	4	6	6
8.	5	1	7	6	5
9.	5	7	5	0	6
10.	5	6	3	6	5
11.	5	6	7	3	11
12.	0	4	5	5	7
13.	5	11	3	7	3
14.	6	5	3	5	7
15.	5	6	5	6	5
16.	10	3	8	7	2
17.	3	7	6	4	5
18.	5	6	8	0	6
19.	3	6	6	7	5
20.	1	4	7	5	6
21.	3	7	8	11	5
22.	11	6	4	7	4
23.	8	5	5	2	6
24.	0	5	4	5	7
25.	5	7	5	5	6
26.	5	5	11	6	5
27.	3	5	3	8	6
28.	6	6	6	5	5
29.	6	5	5	5	6
30.	7	4	5	6	5
31.	6	5	5	6	5
32.	2	4	7	6	6
33.	10	10	5	5	2
34.	8	6	7	3	2
35.	1	5	0	5	8

APPENDIX G (continued)

SCORING VALUES FOR
THE INSTRUCTOR AND COURSE ATTITUDE SCALE

Item	a	b	c	d	e
36.	6	4	8	5	6
37.	5	6	4	6	7
38.	3	8	4	6	5
39.	6	5	7	5	5
40.	4	5	5	9	0
41.	6	5	5	8	2
42.	5	6	4	9	2
43.	6	8	5	5	5
44.	6	5	11	1	0
45.	7	6	4	7	5
46.	9	4	4	8	3
47.	7	4	6	10	6
48.	6	6	5	8	1
49.	5	5	6	10	4
50.	6	6	7	6	3
51.	5	6	10	6	5
52.	2	4	5	7	6
53.	5	6	0	7	5
54.	0	7	7	5	5
55.	6	5	5	10	6
56.	5	6	6	6	4
57.	2	6	6	8	10
58.	7	6	6	4	4
59.	7	4	7	6	1
60.	5	5	11	11	5
61.	5	6	6	5	6
62.	3	3	4	9	5
63.	5	7	4	6	0
64.	8	6	5	5	5
65.	3	5	6	6	10
66.	4	6	8	5	6
67.	2	5	6	8	3
68.	5	6	4	7	5
69.	10	8	6	3	2
70.	5	11	3	7	4

APPENDIX G (continued)

SCORING VALUES FOR
THE INSTRUCTOR AND COURSE ATTITUDE SCALE

Item	a	b	c	d	e
71.	6	6	3	5	1
72.	4	6	7	7	5
73.	6	9	5	5	4
74.	6	5	4	5	6
75.	2	7	8	5	3
76.	5	6	8	3	5
77.	8	6	5	4	7
78.	10	5	3	6	5
79.	7	5	5	0	1
80.	8	5	6	3	3
81.	0	5	7	6	10
82.	8	7	4	5	5
83.	5	7	5	2	1
84.	5	4	9	10	6
85.	5	11	6	5	4
86.	7	3	11	10	6
87.	5	7	8	4	4
88.	9	4	7	6	3
89.	3	7	7	1	0
90.	3	4	7	8	0
91.	5	7	3	11	5
92.	4	7	10	6	0
93.	4	7	6	7	6
94.	3	6	7	4	3
95.	6	5	10	6	5
96.	5	5	6	5	6
97.	8	8	4	6	3
98.	5	5	6	6	6
99.	5	6	5	5	1
100.	5	0	5	6	6

APPENDIX H

PERCENTAGE DISTRIBUTION OF RESPONSES TO EACH ITEM OF THE INSTRUCTOR AND COURSE ATTITUDE SCALE FOR GROUP I ABOVE THE MEDIAN (+M) AND BELOW THE MEDIAN (-M) OF GRADE POINT AVERAGES

Item	a		b		c		d		e	
	+M	-M	+M	-M	+M	-M	+M	-M	+M	-M
1.	0	4	9	2	15	15	43	45	32	34
2.	4	0	30	23	26	36	30	32	10	9
3.	17	21	43	28	17	32	17	19	6	0
4.	2	0	0	0	9	6	23	21	66	73
5.	63	32	22	38	13	24	2	4	0	2
6.	23	7	44	36	27	41	4	10	2	6
7.	2	2	2	6	6	9	41	40	49	43
8.	0	0	0	2	17	8	38	40	45	50
9.	42	47	49	38	9	11	0	4	0	0
10.	53	58	45	36	2	6	0	0	0	0
11.	30	36	51	51	15	9	2	4	2	0
12.	0	2	2	4	21	25	47	45	30	24
13.	0	0	6	0	4	13	45	30	45	57
14.	0	0	0	0	2	6	30	34	68	60
15.	0	0	0	0	17	19	46	40	37	41
16.	4	0	4	9	21	11	54	36	17	44
17.	13	30	59	43	26	23	2	4	0	0
18.	38	47	56	47	4	2	0	2	2	2
19.	15	28	58	51	21	17	6	4	0	0
20.	0	2	7	13	36	24	42	46	15	15
21.	47	66	45	32	6	2	2	0	0	0
22.	7	0	11	11	21	28	44	34	17	27
23.	32	13	57	66	9	11	2	10	0	0
24.	0	6	0	0	2	4	51	51	47	39
25.	19	27	36	25	22	25	17	17	6	6
26.	53	55	41	45	6	0	0	0	0	0
27.	2	8	7	9	19	34	57	38	15	11
28.	0	0	11	8	17	15	43	46	28	31
29.	45	38	49	53	6	9	0	0	0	0
30.	64	47	36	53	0	0	0	0	0	0
31.	74	72	26	28	0	0	0	0	0	0
32.	2	9	11	17	57	47	23	21	7	6
33.	2	0	39	11	21	21	23	28	15	40
34.	9	4	42	34	34	26	13	25	2	11
35.	0	2	0	0	0	11	51	55	49	32

APPENDIX H (continued)

PERCENTAGE DISTRIBUTION OF RESPONSES TO EACH ITEM OF THE INSTRUCTOR AND COURSE ATTITUDE SCALE FOR GROUP I ABOVE THE MEDIAN (+M) AND BELOW THE MEDIAN (-M) OF GRADE POINT AVERAGES

Item	a		b		c		d		e	
	+M	-M	+M	-M	+M	-M	+M	-M	+M	-M
36.	36	32	51	62	13	6	0	0	0	0
37.	4	4	9	9	27	34	43	40	17	13
38.	8	15	47	26	45	59	0	0	0	0
39.	14	11	45	53	25	17	14	17	2	2
40.	8	15	28	28	40	47	24	8	0	2
41.	0	0	15	15	21	28	58	36	6	21
42.	0	0	0	0	7	11	76	51	17	38
43.	2	2	13	4	19	22	46	49	20	23
44.	36	34	58	60	6	0	0	4	0	2
45.	11	7	30	23	29	40	21	19	9	11
46.	8	2	15	23	26	36	47	30	4	9
47.	26	19	66	75	6	6	2	0	0	0
48.	15	11	43	45	36	38	6	2	0	4
49.	23	28	36	42	24	19	11	2	6	9
50.	0	0	6	4	30	19	51	45	13	32
51.	55	55	43	45	2	0	0	0	0	0
52.	2	9	9	17	24	28	57	38	8	8
53.	0	0	0	0	0	8	62	47	38	45
54.	0	4	21	13	28	21	32	38	19	24
55.	34	28	51	57	13	15	2	0	0	0
56.	0	0	0	0	30	26	53	42	17	32
57.	8	24	49	47	32	25	9	4	2	0
58.	9	6	34	30	40	36	13	21	4	7
59.	25	15	26	41	30	15	17	17	2	12
60.	49	53	41	47	6	0	4	0	0	0
61.	58	62	36	32	6	6	0	0	0	0
62.	4	9	5	17	21	32	55	25	15	17
63.	40	51	55	40	5	7	0	0	0	2
64.	13	6	32	25	23	30	23	28	9	11
65.	28	47	32	23	21	17	15	13	4	0
66.	34	53	42	34	24	13	0	0	0	0
67.	6	19	28	36	30	21	34	17	2	7
68.	0	0	0	0	4	6	51	38	45	56
69.	4	0	39	23	38	30	17	36	2	11
70.	0	0	2	0	4	11	66	47	28	42

APPENDIX H (continued)

PERCENTAGE DISTRIBUTION OF RESPONSES TO EACH ITEM OF THE INSTRUCTOR AND COURSE ATTITUDE SCALE FOR GROUP I ABOVE THE MEDIAN (+M) AND BELOW THE MEDIAN (-M) OF GRADE POINT AVERAGES

Item	a		b		c		d		e	
	+M	-M	+M	-M	+M	-M	+M	-M	+M	-M
71.	43	39	55	53	2	6	0	0	0	2
72.	32	40	47	49	15	7	6	4	0	0
73.	6	6	17	4	34	32	32	38	11	20
74.	0	0	0	0	2	4	47	49	51	47
75.	4	19	42	24	28	13	17	21	9	23
76.	43	45	51	47	4	2	2	6	0	0
77.	17	7	32	28	32	40	15	23	4	2
78.	15	2	25	32	13	23	34	28	13	15
79.	34	26	59	57	7	11	0	4	0	2
80.	22	9	36	45	34	25	6	15	2	6
81.	0	11	26	36	59	42	11	11	4	0
82.	15	6	30	22	25	38	19	21	11	13
83.	15	15	58	42	23	26	4	15	0	2
84.	36	34	47	62	13	4	4	0	0	0
85.	0	0	2	0	15	11	53	47	30	42
86.	51	40	43	60	4	0	2	0	0	0
87.	2	2	11	6	46	26	32	47	9	19
88.	11	2	13	21	30	21	34	31	12	25
89.	21	43	58	43	21	10	0	2	0	2
90.	4	11	31	43	46	34	19	10	0	2
91.	40	47	53	40	5	13	2	0	0	0
92.	41	53	57	45	2	0	0	0	0	2
93.	34	51	53	41	6	4	7	4	0	0
94.	4	11	21	19	58	42	13	17	4	11
95.	58	51	40	49	2	0	0	0	0	0
96.	8	9	43	51	40	30	9	10	0	0
97.	8	2	30	15	28	38	26	21	8	24
98.	15	19	42	45	19	17	22	17	2	2
99.	23	26	51	44	19	19	17	9	0	2
100.	0	0	0	8	6	7	36	34	58	51

APPENDIX I

GRADE POINT AVERAGE DISTRIBUTION OF GROUP II

Grade Points	Frequency	Cumulative Frequency
3.00		
2.90-2.99	0	
2.80-2.89	0	
2.70-2.79	2	105
2.60-2.69	1	103
2.50-2.59	1	102
2.40-2.49	4	101
2.30-2.39	4	97
2.20-2.29	5	93
2.10-2.19	4	88
2.00-2.09	4	84
1.90-1.99	1	80
1.80-1.89	1	79
1.70-1.79	4	78
1.60-1.69	5	74
1.50-1.59	11	69
1.40-1.49	5	58
1.30-1.39	4	53
1.20-1.29	6	49
1.10-1.19	4	43
1.00-1.09	12	39
.90- .99	2	27
.80- .89	5	25
.70- .79	10	20
.60- .69	6	10
.50- .59	1	4
.40- .49	2	3
.30- .39	0	1
.20- .29	0	1
.10- .19	0	1
.00- .09	1	1